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AGAVE AMERICANA, OR CENTURY PLANT.

This antient denizen of the Manor garden, was purchased just after the revolutionary war, at the sale of a confiscated estate in the city of New-York. It was then a well grown plant, and has been standing in the green house of its present owner nearly sixty years—the strong probability is, that this Agave is now between 80 and 100 years old.

A few weeks ago, for the first time, it gave signs of putting forth a flower stem. When the bud appeared, it grew with astonishing rapidity, (eighteen inches in twenty four hours) and has continued to rise until it is at this time nearly seventeen feet high. It has already produced some eight or ten branches, which are rapidly forming flower buds.

An event of such rare occurrence had awakened public attention to such a degree, that the managers of the Albany Orphan Asylum, being in great want of funds to sustain that interesting charity, applied to Gen. Van Rensselaer to have the plant placed at their disposal for exhibition. The correspondence on that subject has been published, and the General's answer granting the request, and reserving free admission to the tenants of the manor, is alike grateful to the managers and honorable to him.

A brief description of the Agave Americana, compiled from many books, the correctness of which is verified by a gentleman now in Albany, who has resided in South America, and is familiar with the different species, together with an engraving of the plant, may be interesting to the public.

Agave, from αγαυος (admirable) in botany, a genus of the hexandria monogynia class and order; of the natural order of *coronariæ*, and the bromelia of Jussieu. According to the Linnean system by Gmelin there are seven species. It is not the Aloe, although it is commonly so denominated.

All the Agaves have their central leaves closely folded over each other, and embracing the flower stem in the *centre*, so that these never flower till all the leaves are expanded; and when the flower is past the plant dies: whereas the flower stem of the Aloe is produced on *one side* of the centre, annually from the same plant; and the leaves are more expanded.

The Agave is known in South America by its Indian names, *Tuna* and *Maguey*, and is there confounded with the Aloe. The Agave is an American, and the Aloe an Asiatic plant. The following is thought to be a correct description of the different varieties of this really admirable production of nature.

1. *Agave Americana*—whose stems when vigorous rise to a great height, (more than forty feet) and branch out on every side, so as to form a kind of pyramid, composed of greenish red flowers, which stand erect, and come out in thick clusters, making a beautiful appearance. If it be protected from the cold in autumn, a succession of new flowers will be produced for near three months, in favorable seasons. It has been supposed that it requires a hundred years to bring it to perfection. In hot countries it will flower in a few years. In this climate, under the most favorable circumstances, none have been known to flower in less than forty or fifty years.

The first that flowered in England is said to have been Mr. Cowell's, at Houton, in 1729.

The *Karatto* Agave is a variety brought from St. Christophers, and the name is given to other species of this genus, and has leaves from 2¼ to 3 feet long and about three inches broad, ending in a black spine and more erect than those of the others—this sort has not flowered in England.

2. *Agave Vivipara* or Childing Agave, never grows to a large size, and as it produces no suckers from the root, it cannot be increased till it flowers. It was first cultivated by Mr. Miller, in 1731—Wm. Bartram, who was sent out on a botanical tour by Dr. Fothergill of London, saw this variety in flower, near the Musquito river, in Florida, in 1773—his words are: "I continued along the beach a quarter of a mile, and came up to a forest of the *Agave Vivipara*. I term it a forest, because the scapes or flower stems arose erect near thirty feet high, their tops branching in the form of a pyramidal tree, and those plants growing near each other occupied a space of ground of several acres. When their seeds are ripe they vegetate and grow on the branches until the stem dries, when the young plants fall to the ground, take root, and fix themselves in the sand."

3. *Agave Virginica*, resembles the first so much as not to be distinguishable from it, except by good judges. The leaves are narrower and of a paler color, the stems are not so high, nor do they branch in the same manner, but the flowers are collected into a close head at the top.

4. *Agave Lurida*, has two varieties—1. The Vera Cruz Agave, which resembles the first, with thinner leaves, indentures at the edges much closer, and not so deep, and blacker spines. 2. The rigid and narrow leaved Agave, with long, narrow, stiff leaves, entire, and terminated by a stiff black spine.

5. *Agave Tuberosa*, or tuberous rooted Agave, has leaves indented at the edges, and each indenture terminates in a spine, the root is thick and swells close above the surface of the ground, in other respects it agrees with the last species. It has two varieties, the single and the double thorned Agave.

6. *Agave Fetida*, has long, narrow, stiff leaves, of a pale green color, waved on their edges, those on the side spread open, and those in the centre are closely folded over each other, encompassing the bud. The juice of the leaves has a bad smell. It is seldom more than three feet high, but the flower stem rises near twenty and branches out in the manner of the first, but more horizontally, and the flowers are smaller and of a greener color. A plant of this species, which flowered in 1755 and then died, was cultivated in 1690 in the royal gardens at Hampton court. Of the leaves are formed ropes, and various kinds of cloth, which serve for garments and other purposes.

7. The *Agave Cubensis* has spinous leaves, and a hexapetalous corolla. M. La Mark makes this a variety of the *Agave Mexicana*, the Metl or Maguey of the Mexicans. It grows in Mexico and the island of Cuba. The mucilaginous juice is used as soap for washing, and the leaves are formed into a thread which serves for ropes, cloth, and other uses.

The Baron Humboldt in his work on New Spain thus describes the *Agave Fetida, or Maguey of Mexico*.

In the Spanish colonies there are several species of the *Maguey* which deserve a careful examination, and of which several, on account of the division of their corolla, the length of their stamina, and the form of these stigmata, appear to belong to a different genus. The Maguey or *Metl* cultivated in Mexico are numerous varieties of the *Agave Americana* which has become so common in our gardens, with yellow *fasciculated* and straight leaves, and stamina twice as long as the pinking of the corolla. We

must not confound this with the *Agave Cubensis* of Jaquin, called by M. La Mark *Agave Mexicana*, and which has been believed by some botanists, for what reason I know not, the principal object of the Mexican cultivation.

In the province of Caraccas and Cumana the Agave Cubensis, is called *Magbey de Cocuy*. I have seen stocks (*hampes*) loaded with flowers from 38 to 45 feet in height. At Caraccas the Agave Americana is called *Maguey de Cocuiza*. The finest cultivations which I have seen, are in the valley of Toluca, and on the plains of Cholula. The plants only begin to yield the juice which goes by the name of honey, when the stem is on the point of development. Its proximity is announced by the direction of the radical leaves, which are observed by the Indians with much attention. These leaves which are then inclined towards the earth, rise all of a sudden, and they endeavour to form a junction to cover the stem which is on the point of formation.

The bundle of central leaves (*el Corazon*) becomes at the same time of a clearer green and lengthens perceptibly. They then begin to collect the juice, of which the *pulquè* (pronounced poulca) is made. They cut the bundle of central leaves, and enlarge insensibly the wound, and cover it with lateral leaves, which they raise up by drawing them close and tying them to the extremities. In this wound the vessels appear to deposit all the juice which would have formed the colossal hampe, or stem loaded with flowers.

This is a true vegetable spring, which keeps running for two or three months and from which the Indian draws three or four times a day. A vigorus plant will yield nearly two gallons each day for from four to five months, amounting to more than 250 gallons. And this from a plant scarcely 4 feet 9 inches, high, growing on the most arid grounds, and frequently on banks of rocks hardly covered with vegetable earth. This plant with firm and vigorous leaves is neither affected by drought nor hail nor the excessive cold which prevails in the higher Cordilleras of Mexico. The stalk perishes after efflorescence. An infinity of shoots then spring up from the root of the decayed plant.

If a field is of old cultivation, we may culculate that a 12th or 14th of the plants will yield *honey* annually and that after a delay in the first instance from of fifteen to eighteen years.

The honey or juice of the Agave is of a very agreeable sour taste. It easily ferments, on account of the sugar and mucilage it contains. The operation is terminated in three or four days. The vinous beverage which resembles cider, has an odor of *putrid meat*, extremely disagreeable, but the Europeans who have been able to get over the aversion which this fœtid odor inspires, prefer pulquè to every other liquor.

A very intoxicating brandy is formed from the pulquè, which his called *Mexical or Aguardiente de Maguey*. I have been assured that the plant cultivated for distillation differs essentially from the common Maguey or *Maguey de pulquè*. It appears to be smaller, and to have the leaves not so glaucous (sea green) but not having seen it in flower, I cannot judge of the difference between the two species.

But the Maguey is not only the vine of the Mexicans, it can also supply the place of the hemp of Asia, and the papyrus (Cyperus papyrus) of the Egyptians. The paper on which the ancient Mexicans painted their hieroglyphical figures, was made of the fibres of Agave leaves, macerated in water, and disposed in layers like the fibers of the Egyptian Cyperus, and the mulberry of the South sea islands.

The thread which is obtained from the Maguey, is known in Europe by the name of pite thread, and it is preferred by naturalists to every other, because it is less subject to twist.

The juice which the agave yields when it is still far from the period of efflorescense is very acrid, and is successfully employed as a caustic in the cleansing of wounds. The prickles which terminate the leaves served formerly like those of the Cactus, for pins and nails to the Indians.

We may conclude from all that we have related, respecting the use of the different parts of the Maguey, that next to the maize and potato, this plant is the most useful of all the productions with which nature has supplied the mountaineers of Equinoxial America.—*Humboldt's New Spain. pp. 369 to 376.*

The ascent was toilsome, but the top was open, and so covered with that beautiful plant that we called it the *Mountain of Aloes*. Some were just peeping out of the ground, other were 20 or 30 feet high, and some gigantic stalks were dead; flowers which would have kindled rapture in the breast of beauty had bloomed and died in this desolate mountain, unseen except by the passing Indian.—*Stephen's Central America, vol. 1, p. 90.*

The pith of the stem after flowering, and it becomes dry, is used in South America for razor straps, and for which it is eminently calculated on account of its solicious quality.

GUN MAKING.

Among the variety of trades carried on in this country with much success is that of gun making. In our large cities there has been established factories for the manufacture of fowling guns, which have for a time turned off very excellent work; but, as the main expense of making such articles is the labor expended upon them, the *foreign agents* have always been able to undersell the American workmen, by reason of the cheapness of labor in England, France and Germany, from whence the American markets are supplied; indeed, the Dutch work has for years sold for less than half that the American workman can afford it, so that in this branch of the business, and it is much the largest part of it, there has been but sorry success to those who have undertaken it.

In the manufacture of muskets, the encouragement of government, by giving large contracts, for a while so stimulated the business as to produce an excellent article; indeed, as good as any ever made. Most of the muskets now made for government are made at the government armories at Springfield, Mass., and Harper's ferry, Va., as are the rifles and pistols for their use.

But rifle making, in its perfection, is truly American. No foreign rifles that I have ever seen were worth owning, and the reason that the American rifle is the best is that the American workmen shoot with them and learn practically the requirements of a good gun, which the mere manufacturer will never know, for where such correctness is required as in cutting the rifle, sighting, detanting, &c., it can only be done by the "cut and try" system. To be sure, the theory may be well understood, and the workmen first rate mechanics, yet, without the practical knowledge of their use they invariably fail; or, if they approximate to goodness it is much by chance. I speak this from much knowledge of the making and the using of the article, and therefore speak with confidence, and was I now about to buy me a rifle at a strange shop, my first inquiry would be—"is the workman a good shot?"

Next to the chronometer I know of nothing that requires so many close considerations as to workmanship, material and mathematical calculation, as the rifle, considering the amount of work required to make a good one, and some of these I shall hint at as well for information to makers as to buyers.

First, then, as to materials; the excellence of the *barrel* depends much upon the evenness of the material as to density, hence that material which has the most perfect density and fineness, whether hard or soft comparatively, is the best to be used; therefore, I think, *cast steel* well and evenly annealed, makes the most perfect barrel—next to it plain *soft iron*. For more strength and beauty, *twisted stubbs* may be wound and welded upon the common iron (the best refined soft iron should be used) giving the appearance of wound or twisted barrels outside, with straight even iron within; these make excellent and beautiful articles. Cast steel is the evenest metal, when good, that I have ever worked, and when properly used makes a beautiful finish.

Our rifle makers do not pay proper regard to the proportion of their barrels, generally making them nearly or quite as large at the muzzle as at the breech, using more iron in them than is necessary, or at least where it is not necessary or useful. The reason is that the gun is much easier sighted, for correct shooting, upon a square straight barrel than upon a tapering one, and the difficulty to unscientific workmen has induced so general a use of that kind of barrel, that thousands think another shape would not do for "*cut bore guns.*" (as they are termed by many in contradistinction of a sort of mongrel things known by the misnomer of "*smooth bore rifles,*" made in the general shape of rifles without cutting the barrels,) and when asked the reason why they are so made they generally answer that "they hold out better," that is, they are steadier when held out *in aim*. Another disproportion is in the length of the barrel; a general opinion prevailing that "long ones shoot the best," an opinion easily proved correct, and not correct. The fact is, there is a better range of sight with the longer barrel, whilst the short one will carry better than the long; that is, to a greater distance with the same charge, proving that it discharges the ball easier; and when the sights are so extended as to give the same length or distance from the eye to the forward sight, they are shown to do better shooting than those longer than about *fifty times in length the diameter of the bore*, which is about the length that shoots the strongest, as tested with the best powder, upon experiment.

Rifle barrels should be made in length according to the width of bore, and the main heft of metal should be as for shot guns at the breech, the taper being allowed for by raising the forward sight. Undoubtedly the heavier the barrel the steadier it may be held, until too great a weight be had for the muscles of the shooter, which by too hard straining will tremble. There is every thing in cutting the barrels to have a perfect rifle, and, notwithstanding the obvious philosophy of the thing, not one in twenty of the best workmen know why a particular kind of "crease" or "gain" is the best, only that it "shoots better," which they have learned by trying. The philosophy of it may be stated in familiar terms, thus: by cutting small gains through the barrel, in a spiral manner, perfectly parallel to each other, an edge is formed upon them, which holds upon the "patch" of cloth or buckskin in which the bullet is wrapped and snugly forced down the bore so as to turn the ball when shot from the gun, changing continually the position, so that if the bullet is not perfectly round, or of unequal compactness or heft upon its different sides, its turn each time brings it again upon centre, so that every five, six or eight feet, according to the twist of the cut, the ball must incline upon every side equally; thus a directness is had which cannot be got where the bullet is left free to an inequality of heft or roundness: as forced against the atmosphere with such velocity, there is created a vast friction, or resistance, to which the least inequality of roundness, heft or smoothness will yield the ball from its line. It must be obvious, then, there is the greatest necessity for having the barrel or bore of it perfectly

straight, and the grooves or cuts perfectly even in depth and twist, and of the finest finish possible, hence the evener and finer the metal the better. Again, there should be an equal amount of metal upon each side of the barrel, so as to equalize the spring which always occurs upon the discharge of the piece.

Should you think the above worth a place in your paper, and a continuation of the subject desirable, I will furnish the articles. B. C. T.

REGISTER OF PATENTS.

AMERICAN PATENTS ISSUED IN MARCH.

1. Robinson & Hall, Boston, Mass., for an improvement in *door locks and latches*.

2. William C. Grimes, York, Penn., for an improvement in the machine for *hulling clover seed*.

3. George John Newberg, a citizen of the United States, residing in London, Eng., for an improved mode of *rendering fabrics water proof*.

4. Job S. Gold, Philadelphia, Penn., for a *refrigerator*.

5. Moses and Samuel Pennock, East Marlborough Penn., for improvements in the *drill, or seed planter*.

6. Orlando Jones, Eng., for an improvement in the process, or processes, of *manufacturing starch*.

7. David Philips, Georgetown, Penn., for improvements in *circular saws, and the mode of driving them*.

8. Justus Rider, Woodburn, Ill., for an improvement in the *plowing and planting machine*.

9. John M. Van Odeal, Ill., for improvements in the *horizontal wind mill*.

10. Hunter & Harris, Va., for improvements in the mode of *constructing and propelling steam vessels*.

11. Shepherd & Loring, Southwark, Penn., for an improvement in the manner of *manufacturing butt hinges, by casting them in combined metallic moulds*.

12. Josiah M. Read, Boston, Mass., for an improvement in *clamps for crimping leather*.

13. Alfred Churchill, Geneva, Ill., for an improvement in the *harvesting machine*.

14. Robert Cornelius, Philadelphia, Penn., for an improvement in *gas lamps*.

15. Alvin C. Goell, Washington, D. C., for an improved *machine for boring the conical openings into the composition which constitutes the charge of war rockets*.

16. James King, Morristown, N. J., for improvement in the *mortising machine*.

17. Nelson J. Wemmer, Philadelphia, Penn., for an improved apparatus for *filing saws*.

18. Henry Burger, Danville, Ia., for an improvement in the *cross cut saw*.

19. Michael B. Dyott, Philadelphia, Penn., for an improvement in the *lamp for burning camphine*.

20. John J. Howe, Derby, Ct., for improvements in the *machine for making pins*.

21. William Perrin, Lowell, Mass., for a *square joint dovetailing machine*.

22. Jesse Tuttle, Boston, Mass., for an improvement in the *rotary steam engines*.

23. Henry R. Sawyer, New York, for an improvement in the mode of constructing *fire places and chimney stacks*.

24. George W. Cherry, Washington, D. C., for improvements in the machine for *excavating ditches*.

25. Joseph Francis, New York, for an improvement in the *life boat*.

26. Cardes & Locke, Newport Eng. for improvements in the *rotary steam engine*.

27. Francis R. Torbet, Paterson, N. J., for an improved apparatus for *regulating the pressure of steam and other fluids, confined in pipes and other receptacles*.

28. Benjamin & Henry B. Tatham, Philadelphia, Penn., assignees of John & Charles Hanson, Huddersfield, Eng., for an improvement in machinery for *manufacturing lead and other pipes*.

29. William W. Van Loan, Catskill, N. Y., for an improvement in *propelling boats and other vessels*.

30. Hobday & Cooke, Portsmouth, Va., for an improvement in the construction of *wheels for propelling boats*.

31. Samuel S. Allen, Miamisburg, O., for an improvement in the machine for *husking and shelling corn*.

32. William M. Hall, Wallingford, Ct., for an improvement in the *bee hive*.

33. Benjamin Morrison, Harrisburg, Penn., for an improvement in the *counter scales* for druggists.

34. Carey McFarland, Barre, Mass., for improvements in the machine for *splitting palm leaf*.

35. David C. Lockwood, New Windsor, N. Y., for an improvement in the machine for *excavating earth*.

COFFRE DAM USED IN EXCAVATING ROCK.

The navigation of the Ribble being much impeded by natural bars or weirs of sandstone rock, compact gravel, or loose sand, several ineffectual attempts were made to remove these hindrances, and eventually Messrs. Stevenson and Sons (of Edinburgh) were consulted, and under their directions the present works were commenced. About half a mile below Preston, a bed of sandstone rock, upwards of 300 yards in length, stretches quite across the river; the higher parts are frequently left dry during the summer months. This natural wier exerts such an influence upon the flow of the tides, that neap tides which at twelve miles distance rise 14 feet, are not at all perceived at the quay at Preston. It was proposed to cut a channel through this bar, affording an average navigable depth of 20 feet at high water of spring tides. In some places, therefore, the excavation would be 13 feet six inches deep. After consideration it was determined to make use of a series of coffre dams, as the most effectual and economical mode of proceeding. Their construction may be thus briefly described:—A double row of wrought-iron bars, 2¼ inches in diameter, with *jumper* points worked upon them, were inserted vertically into the rock at regular intervals of 3 feet apart laterally, the second row being placed 3 feet behind the front row. When a sufficient number of bars were fixed, a tire of planking, 3 inches thick, with clasps to enable the planks to be fixed to the rods, was placed withinside. The lower edges of the planks were cut out roughly to the inequalities of the rock; they were then lowered, and by means of an iron rod, with a crooked end, those parts which did not touch the bottom were ascertained, and a change in the form made, until the plank rested its whole length on the rock: the lower edge was then beveled off, and being finally lowered to its place, the plank was beaten down by the force of a heavy mallet, upon an upright piece of wood resting upon the upper edge of the planks; the lower beveled edge yielding to the blows, sunk into the irregularities of the rock, and thus ultimately, in connexion with the puddle behind it, formed a perfectly watertight joint. The lower planks being fixed, the upper ones were placed upon them; transverse tie bars were inserted at intervals; and the clay puddle was formed in the usual manner. In order that the navigation of the river should not be impeded, the diagonal stays were all placed inside the dams. These stays had joints at the upper ends, and being slipped over the tops of the iron rods, and kept in their places by cotters, their lower ends could be moved either horizontally or vertically, as the irregularity of the rock required:—as the excavation proceeded, longer stays were easily substituted, by merely removing the cotter, sliding up the short stay, and replacing it by another suited to the increased depth. The sides of the dam were kept together by bars of iron connected by two horizontal wale pieces, 10 inches, by 6 inches, placed on the outside of the vertical iron rods. When the dam was thus constructed, the water was pumped out by a steam engine of ten-horses power. The whole of the excavation, which was 300 yards in length, and 100 feet in width, was to be completed with three lengths of coffre dams, so contrived as to include within the second stretch the lower side of the first dam, in order to excavate the rock in which that row of piles was fixed. The first and second lengths have been executed; the third is now in progress, and the excavation is proceeding very rapidly. The sandstone rock does not require gunpowder. The total quantity to be excavated is estimated at 31,000 cubic yards. Some doubt existed in the mind of the engineer as to the security of the iron rod piles by merely jumping them from 15 to 18 inches into the rock; they have, however, proved to be perfectly firm during heavy floods, when the whole dam has been submerged, and the velocity of the current which was rushing over it was not less than five miles per hour.

"The river is still falling," said one darky to another, when on the Mississippi. "Well, it has a *bed* under it," replied the other.

INVENTIONS, DISCOVERIES, ETC.

MANUFACTURES IN VIRGINIA.

The abundance and cheapness of water power in Virginia, united with many other natural resources and advantages, must make her a great manufacturing State in the course of time. We learn by an article in the Buchanan Mountaineer, that the people of that place are turning their attention to domestic manufactures. Mr. B. Amen has in operation 176 spindles, 4 looms and 4 carding machines, where blankets of all sizes are manufactured,—"the best (says the writer) I have ever seen." Mr. A. also manufactures jeans for summer and winter wear, are said to be unsurpassed. Mr. John Bonsack has an establishment on a larger scale, having some 300 spindles, 8 carding machines and 4 looms, all of the finest machinery. "The English manufacturer formerly boasted he could manufacture from the fleece a warm garment in 24 hours, and the skill and enterprize of John Bansack can do the same."

THAMES TUNNEL.

The Thames Tunnel has cost two millions of dollars. It is 1200 feet long and is built in the most durable manner, so that it will last for ages, unless an earthquake should interfere with it. It saves three miles of travel through crowded thoroughfares. With the experience acquired in building this tunnel, it is supposed a second could be built for one half of the money. Waterloo bridge and London bridge, over the Thames, (stone bridges) cost five million dollars each.

ELECTROTYPE.

The Bavarian sculptor, Stigelmayer, has brought to great perfection the the galvano-plastic process. In the space of two or three hours, colossal statues in plaster are covered with a coat of copper, which takes with the greatest accuracy the most minute and delicate touches, giving the whole the appearance and solidity of the finest casts in bronze. M. Stigelmayer has also applied his process to the smallest objects, as flowers, plants, and even insects, bringing them out with such accuracy, that they seem to have been executed by the hands of the most skilful artists.—*Letter from Munich.*

SILK BUSINESS.

In 1840 Pennsylvania paid $101 89 in the form of bounties on silk grown in the state this year. In 1841, the increased production of silk by her citizens was such that the bounties amounted to $4,418 55. In Delaware County one person cleared upwards of $200 by a single crop of worms. Miss Rapp, of Economy, raised nearly 400 pounds, and drew $1700 from the State Treasury for bounty, a sum which must have more than paid all her expenses.

In Tennessee the business is making rapid strides. At the last session of the Legislature of that State, a bounty law was passed allowing a dollar and a half per pound on silk raised and reeled in the State by the same person. Great crops were produced last season. Frederick A. Ross, of Hawkins county, made this season 200 pounds of reeled silk, which sold promptly for five dollars per pound. A number of persons have commenced the business this season, and a great product is expected.

Whitmarsh's great establishment at Northampton, Mass., is in successful progress. He had 18 hands employed in setting out mulberries a fortnight ago, and has received orders for five millions of trees!

NEW CAVERN IN SCHOHARIE.

We are informed that another cavern has been recently discovered, about four miles north of Schoharie, C. H. It has been explored for five miles, and the end not yet reached. It is said that it will successfully compete with the *Celebrated Cave*, discovered in Schoharie a few days since. Two or three of our citizens went out, a few years since and were engaged exploring it from nine o'clock in the morning until five in the afternoon, without having gone over the whole of it then. In some places it is an hundred and more feet high. Stalactites and stalagmites, with a variety of other mineralogical specimens are scattered about in profusion. Our fellow citizen, Mr. JOHN S. BONNY, who has had some experience in the business, intends going out and making a thorough and full exploration of the new cavern in all its parts. We shall endeavor to give our readers the result of his labors.—*Schenectada Reflector.*

SELF-CULTIVATION.

BY I. W. DUNHAM.

Almost every thing which presents itself to the human mind admits of profound investigation. And fully to understand any subject—to seek out the harmony of relations, and appreciate its bearing, requires not only the exercise but the perfection of the intellect. There is evidence of progress towards this perfection in the enthusiasm which is manifested by all, in the particular departments to which each gives his attention. The various faculties of the mind—moral and intellectual, were evidently given us for use. We are therefore fulfilling the design of our Creator only when we are advancing towards the perfection of these faculties.

If this be true of individuals, it must be true of the great mass of the human family. It has been the maxim that "the mechanic must not go beyond his tool," or in other words, let each class of society restrain its thoughts within its own peculiar sphere of action. Such have been the views of the favored few, who would bind down the thoughts and restrain the abilities of the many; and even in the present day, we fear the sentiment is not wholly eradicated, that the field of thought, vast and boundless as it is, should be the exclusive possession of a part rather than the common property of the whole. But He who has given thought to man has also given him freedom of thought. No recipient has the right to proclaim himself the favored one, or to monopolize that which like the air we breathe was given as a common benefit to all. Were it true that the great Dispenser of all things designed the wealth of mind as the special inheritance of rank or station, particular circumstances would ever be productive of that wealth. But such is not the fact. No station can claim it—no circumstance produce it. The humble peasant with his lowly cot and simple fare may be richer in the wealth of thought than he who lords it over an empire. The toil worn artizan with laboring hand and pallid brow may gather jewels from the depths of mind, which shall vie in lustre with the rarest gems that deck the brow of earth's proudest son. The peasant Burns sings as sweetly as the titled Byron, and in strains more touching and impressive. The plowman Rittenhouse traces the courses of the heavenly bodies and marks each change and position with an accuracy no less full and complete than the favored one of princes. The mechanic Franklin in power of investigation, and originality of invention, yields not in comparison with those who have labored in the fields of science under the brightest sunshine of high and lordly patronage.

Each department of thought has gathered devotees from every rank in life, and its garlands rest alike on the brows of the humble and high-born. Then why attempt to assign the immunities of thought to any particular class? It is vain. Roll back the ocean surge, but think not to restrain the energies of mind, and the onward course of thought. It is incited by a power over which human might has no control.

The manifestations of the divine nature in man holds within itself the power which shall elevate him to the loftiest gradations of the being of light, or sink him to the lowest depths where darkness reigns. A single idea proclaimed by a single man has gathered kingdoms at his bidding, and buried beneath the sands of the east millions of human beings. A simple monk of the Augustine age went forth from his cloistered cell and thundered in the ears of papal supremacy the idea of religious toleration; its echo was caught by awaking thousands; and the anathemas of the pope fell powerless as autumn leaves before the rushing storm. That idea is still in progress; and its effects are seen in the downfall of intolerance, the dispersion of ignorance and the restoration of true religion.

But another and bolder idea has been promulgated. Equality of rights and freedom of thought is the inspiring theme which is rousing the slumbering energies of a world. Its onward progress who can foretel? It is this and this alone which is to work the political and civil regeneration of our race. Freedom of thought! It has might, and power, and magic in the sound. It touches the mysteries of science and the arcana and penetralia open wide their hidden doors. It knocks at the gates of superstition and her bolts and bars fall powerless to the ground. It thunders in the strong holds of tyranny and the bands of the oppressed no longer retain the power to coerce.

Its first dawning has opened upon the world of mind, and who shall portray its mid-day effulgence? Here in our own fair land its invigorating beams have imparted their transforming influence, and admiring nations gaze with wonder at its mighty effects. But it lingers not on these shores; making the winds of heaven its chariot, it is passing through the length and breadth of the habitable earth, executing the high behests of it mission. Already its deep murmurs are heard beneath the throne of the czars, it rings along the battlements of the sultan, and those mighty structures totter to their lowest base. The snows of the north shall not forbid its progress; the sands of the equator or the waves of the ocean cannot check its advancement. It shall go until sect, and caste, and party shall merge their distinctions beneath its subduing influence, and union, harmony, and peace, reigning with undisputed sway, proclaim the millenium of philosophy, of truth, and of religion—mind triumphant, earth a paradise, and mankind a universal brotherhood.

MR. BURDEN'S SPIKES.

The public has already had the means of knowing that the above named enterprizing individual invented, some years since, a machine for making spikes of wrought iron, chiefly for the purposes of being used in constructing ships and railroads; but their value, compared with other spikes, seems to be but very sparingly known. These spikes, to any competent judge, will show themselves to be far superior to any others ever manufactured, or which can be manufactured for the above purposes, for the following reasons. The iron being selected by Mr. B. himself, and in large quantities of the first quality, no other being used, its uniform excellence must infinitely surpass that of common spikes, which are made of such lots of iron as come to hand promiscuously; the body of these spikes being of exactly even and uniform size, and without hammer strokes, when once entered they have no tendency to split the wood, and, having a square chisel shaped edge, they cut their passage instead of forcing it.

But Mr. B. is emphatically an experimentalist, and he wished to test the comparative value of his spikes by some precise data. He wished to ascertain first with what degree of safety his spikes might be driven into wood without splitting; second, what was the tenacity of the iron; and third, what power it would require to draw them out.

To test the first point, he took a piece of seasoned white oak joist, 3 by 6 inches, and sawing off 3 inches, produced, of course, a piece 3 inches square and 6 inches long, but with the grain running crosswise. In one end of this block, he entered, without boring, the point of a spike 5 inches long with the edge of its point across the grain, and drove in the whole length without splitting the block.

To ascertain the second and third points, he drove another and similar spike into a similar block, leaving its head a little distance out, and securing the block in a firm situation, and griping the head by a strong instrument similar to a pair of wire tongs, he suspended to the tongs 100 56-pound weights, equal to 5600 pounds, and these neither breaking the spike nor drawing it out, he took a sledge and struck forcibly upon the apparatus attached to the head of the spike, when it drew out and left the spike and the wood unbroken.

These experiments were made at the store of Messrs. I. & J. Townsend, in this city, in presence of the President and Directors of the Albany and Schenectady Railroad Company, and if they do not remove all doubts as to the superiority of these spikes for ships and railroads, I know not what would.

S. B.

PREJUDICES AGAINST PATENTS AND INVENTORS.

At the present day there exists a pretty general prejudice against the exclusive privileges granted to inventors for the manufacture and disposition of their inventions. This is the more remarkable as it seems to be based on the prejudice against monopolies which is prevalent among all classes of society. The monopoly granted to a patentee merely secures to him the fruits of his own invention; and, as a reward for his ingenuity, and a remuneration for the time and money expended in bringing his invention to perfection, merely guaranties to him the exclusive right for a limited period to a product of his own creation—a product that had no prior existence—to the avails of which the world has no moral claim, and to which it cannot be denied that he has stronger natural right than the land-holder has to the estates he inherits.

It is therefore a matter of deep regret that, in the absence of direct encouragement, after struggling with the vicissitudes of fortune, the inventor has, by patient perseverance, by the exercise of great ingenuity, with much cost, and constant anxiety, perfected his invention, and thereby opened a new source of national wealth—that he should be stigmatized by public opinion and vulgar prejudice as *a monopolizer*. Yet, we lament to say, that such is the fact. And this is not all. The government exacts from the inventor a fee, and a very oppressive one, too, in many cases, to protect his invention from piracy. Does it keep that engagement? No! When the patentee finds his patent infringed on, and applies to government for that protection which they have solemnly guaranteed to extend, he is thrown on his own resources, and finds by sad experience that the right he purchased so dearly was merly the privilege of self-protection.

While foreign nations are straining every nerve to encourage ingenious inventors, by conferring on them public honors and renumerating them with national munificence, in this country of boasted enterprise and skill, men of genius are viewed with distrust; and latent talent, instead of being fostered and promoted, is depressed, and often crushed, by mean and vulgar prejudice. Many, very many, there are, not possessed of the means, and in consequence of this prejudice are unable to obtain them, for developing practically the brilliant ideas that their inventive faculties may suggest, and which, if judiciously encouraged, might be productive of the most important and even magnificent national results; but from the absence of such a fostering hand, and the fatal effects of public opinno, their spirits are damped and appalled, and their talent is crushed in the bud, and becomes forever lost to the world.—*Sun*.

A French doctor, has discovered a remedy for gout, by making his patients scour the floors of their own houses, which operation is performed by skating furiously along the boards, mounted on brushes attached to the shoes.

ALBANY, SATURDAY, AUG 6, 1842.

AGENTS.—Mr. G. VANDENBURGH is authorised to receive subscriptions and money for this paper in the river towns. Also Mr. HENRY HALLAND, of Valatie.

☞ D. T. BISBEE is requested to present a statement of his account. Subscribers at the west will please remit through the postmasters at present, instead of paying to the above, as his agency has ceased, and his receipt for money will not be good.

☞ We this week present our readers with a description of the plant at the Van Rensselaer garden which is at present attracting so much attention. It has shot up about 17 feet in six weeks, a strong stalk three or four inches in diameter. We shall note its progress in blooming. A small charge for admittance is demanded at the gate, for the benefit of the orphan asylum.

☞ We have commenced a series of articles on gun making in this paper, which we purpose to follow up with similar accounts of other trades, if we can find *live mechanics* to write them. Who knows any thing about his own business beyond driving a sharp bargain? Who understands the principles of his trade? Who is a scientific mechanic? We *pause* for a reply—don't all speak at once.

☞ In our next we shall give a beautiful engraving of Mr. Lighthall's *Horizontal Half Beam Marine Engine*, and an account of the tug boat Mutual Safety, which was in type for this week, but unavoidably omitted.

☞ On the next page will be found an article in relation to a truly scientific mode of ascertaining the weight of canal boats and their freight at all times. It is worthy the attention of all men, which by the way does not include office holders.

☞ Our appeal last week produced three communications, two subscribers and *twenty shillings York!*—a great haul for the season.

☞ We shall resume in our next, an account of the Annesly system of naval architecture. It is a subject which should have the attention of all who are engaged in ship building and commerce, and may be found interesting to others.

ORIGIN AND PROGRESS OF THE USEFUL ARTS—No. IV.

The old practice in making boards was to split up the logs with wedges; and inconvenient as the practice was, it was no easy matter to persuade the world that the thing could be done in a better way. Saw mills were first used in Europe in the 15th century; and so lately as 1555, an English ambassador in France, having seen a saw mill, thought it a novelty that required a particular description. It is amusing to see how the aversion to labor-saving machinery was always agitated in England. The first saw mill was established by a Dutchman in 1663; but the public outcry against this new fangled machine was so great, that the proprietor was forced to decamp with more expedition than did ever Dutchman before. The evil was then kept out of England for many years; but in 1768 an unlucky timber merchant, hoping that after so long a time the public would be less watchful of its own interests, made a rash attempt to construct another mill. The guardians of the public welfare were, however, on the alert, and a conscientious mob pulled the mill to pieces. Such patriotic spirits could not always last, and now, though we have nowhere seen the fact distinctly stated, there is reason to believe that some mills are used in England.

The art of civil architecture did not advance in England with very great rapidity. In the time of Alfred houses were rather indifferent things; so much so, that when Alfred himself, being desirous of having some method of measuring the passage of time during the darkness of night, marked a candle into dimensions to represent the hour by the burning, the wind came with such force through the *chinks* of the palace that nothing could be determined by this kind of measure.

In the time of Elizabeth, the general style of building was not much superior to the one just mentioned. "Building," says Harrison, "consisteth of timber cast over with clay, to keep out the wind." One would suppose that the window, if, as old writers say, it was a *wind-door* for the purpose of admitting that element, would have been a very useless addition to the expense of such constructions. The antients, as Herculaneum sufficiently proves, understood the art of making glass; but they seldom if ever used it for their windows. Down to the twelfth century oiled paper or linen were used instead, and, perhaps, admitted as much light as one of our ground glass windows. The complainer of effeminacy is not limited to any age. Old Holinshed, in his chronicle, bewails the changes that are taking place in building. He says: "in times past men were contented to dwell in houses of sallow, willow, &c., so that the use of oak was in a measure dedicated wholly unto churches, religious houses, prince's palaces, and navigation; but now willow &c. are rejected, and nothing but oak any where regarded; and yet, see the change; when our houses were builded of willow, then had we oaken men; but now that our houses are come to be made of oak, our men are not only become willow, but a great many altogether of straw; which is a sore alteration."

The art of warming houses, beds, dress, &c., will furnish matter for the succeeding numbers of these series.

DECLINE OF CORSETS.

We are told that corset makers complain of the decreasing demand for this important article of manufacture; that many females are discarding them, and that there is danger of their going out of fashion.

The study of anatomy and physiology must lead to such results, and that study is beginning to have the attention of the ladies. There are now several female writers and lecturers in this department of sience, and some little attention is given to it in a few of the schools. It is certainly one of the most important studies that can engage their attention, and it is lamentable that it should have been so long totally neglected for others, if not the most frivolous, at best of little use. It is proposed to suggest the introduction of the study of anatomy and physiology into common schools, and there appears to be every reason in favor of it. Why should we neglect the study of *ourselves*—our structures and constitutions? We have lost sight of our own bodies in the engrossing concerns of wealth and fashion, and are sacrificing health and comfort in our devotion to less worthy objects.

On the subject of tight dress, a lady thus discourses with plainness and truth, which is the way to come at this business. "An adult man if unconfined, takes in 40 square inches of air in a breath; but a great difference is found even when in his ordinary dress—then he only takes in 32 inches. If then in a man, in the expansion of his chest, a coat and a vest causes one fifth less, what will be the effect of the lacing and padding now so generally employed by the females? There is not a medical man who is not a daily witness of the consequences. We look for the bright and beautiful beings we have known in our youth, and where are they? Alas they have listened to the dictates of fashion, and life has been literally crowded out of the room; we look on an emaciated form—the light garland seems a burden on her brow, the bounding step is gone, the bright color faded, and a look of decay has taken its place—and thus a life which began so brightly, is ended in sadness and gloom. Beyond all doubt, corsets are exerting a destructive influence on the life and health of families, and strange it is the philanthropists of the age exhibit so much apathy in regard to it, that they do not carry their philanthropy into the ladie's boudoir. In my opinion, alcohol is not more destructive to man, than corsets are to women."

There is a little work by Dr. Wm. A. Alcott, called very appropriately *The House I live in*, which is not only well adapted for schools, but will be found to convey a great deal of important imformation to older inquirers, in an attractive form.

RAYMOND'S FRACTURE APPARATUS.

Mr. N. L. Raymond, an ingenious mechanic of Utica, has made some valuable improvements on an apparatus for managing fractured limbs, which is worthy the attention of surgeons not only, but of the community generally, who are liable to broken bones, and in such cases need every alleviation which can be afforded. This instrument is ingeniously constructed with bands, slides and springs, to suit different lengths of limb, and to accommodate the flexion or extension of the joints, and to subserve the object of counter extension. It has been examined and used by some of the most eminent surgeons in this part of the country, with perfect satisfaction as to its superiority for the purpose to which it is adapted, over other contrivances of the sort. It is not necessary, perhaps, to give a description of it, which it would be difficult to do; it should be seen to be understood. The testimonials of some of the faculty may be found in another column. We believe Mr. Raymond has deposited one of his apparatuses at the Medical College here.

TIME.

Every minute of time is valuable, and it would be as great folly to shoe horses with gold, as Nero did, as to spend time in trifles. The artisan who toils the live long day is apt to excuse himself from study by alleging want of relaxation. He should so order the time of recreation that it may relax and refresh the part that has been exercised, and is tired, and yet do something which, besides the present delight and ease, may produce what will afterwards be profitable. While therefore he relaxes the muscles of the body, he may bring the organs of the mind into profitable exercise.

DELAVAN HOUSE.

If any of our readers are antiquaries they will be pleased to learn that the first house established in this country as a temperance hotel is situated at the corner of Broadway and Steuben streets in this city. They will not, however, observe any thing about it indicating age or decay, as it has recently undergone a thorough repairing, outside and in, and constitutes one of the most commodious resting places for the traveler which the city affords. Since its establishment temperance houses have sprung up in all quarters, and have multiplied exceedingly in the land. All of our principal hotels bear evidence of the prevailing reformation. The bar, which was formerly the principal feature of the most frequented room, is now thrown back and its glittering array of cut glass demons enclosed within panneled doors, or dispensed with altogether; and the *bar room* is dignified with the title of *office*. Instance the American, whose bar room has undergone a great revolution, and we venture to say that the office of cork drawer there has become almost a sinecure. But the Delavan house is the father of all the temperance houses, and, under the management of Mr. Hill, is recommended to the patronage of all travelers who seek good order, comfort and repose from the fatigues of the day's journey.

EMINENT SHOEMAKERS.

The editor of the Rochester Republican would be a capital hand to search for snakes and mare's nests. We think he must have had some experience in similar pursuits in his younger days. He has discovered that our article on eminent shoemakers is "forbidden by the principles of Christianity," because it has a "tendency to render labor disreputable!" Very few of the fraternity would have discovered that subtle tendency of our article, after the columns and pages we have written to stimulate mechanics to mingle intellectual culture with their daily labors. The object of the article in question was to give examples of a few men who have risen to eminence in literature and science, and were enabled to render valuable services to the world, by having devoted their leisure hours to study, instead of idling them away in frivolous pursuits, as but too many are accustomed to do. Some of those men followed their trade during life, others became wedded to science and devoted their attention to pursuits in which they could be more generally useful. We may err in our estimation of these matters; if so we are ready to have our errors pointed out by any one who is capable of doing it. But we can assure the editor of the Democrat that if he has any desire to turn pettifogger, he could do so without running the risk of seeing his name classed by us among eminent editors, unless he should particularly request it.

IRON STEAM BOATS.

These have *come* to be all the go. It is a chance if we don't show, in a week or two, that good plank is the right stuff for ship building yet, and that Albany is the place where they may be built to much better advantage than in many others. In the meantime we are happy to notice that iron is *going ahead*—especially American iron. The Black Diamond has made her appearance on our waters. Her sides and bottom are constructed of thick boiler iron, riveted together. She has two masts, and a *flush* deck. The amount of her tonnage is 230 tons. She is 100 feet long, about 14 in breadth, with some 11 feet depth of hold. Her engine and other machinery are aft, and her wheels under the stern. She will run from Philadelphia via the Raritan canal to Albany and Troy, carrying coal and other freight. Her speed is about 10 miles per hour.

The Ironsides, another steamboat constructed of iron, arrived at Hartford on Monday last, from Philadelphia, via Delaware and Raritan canal, with coal and merchandise. It is the first of a line intended to run between the two places weekly.

HAZARD'S REGISTER.

A friend of our's is anxious to obtain a copy of Hazard's Statistical Register. Can any body tell us where it is published, or how it is to be procured?

We cut the above from the Journal of Commerce. The Register used to be published by Mr. Hazard in Philadelphia, but we have not seen it for several weeks, and have serious apprehensions for it. It is a fatal season for every kind of publications but those devoted to politics—they thrive best when every thing else is depressed.

JOHN FITCH.

We understand that Miss Leslie of Philadelphia is preparing a biographical memoir of this celebrated American mechanic, who, in the year 1777, conceived the project of a steamboat, and in the year 1788 produced one in successful operation on the Delaware, nearly twenty years before Fulton appeared with his on the Hudson. A memoir of Fitch was published in the 22d No. of this paper, and an engraving of his boat also, which is a curiosity, and is alone worth the year's subscription. A few sets of the first volume are yet to be had.

STATE CONVENTION.

We call the attention of mechanics to the circular of the executive committee of the New York State Mechanics' Association, for a convention at Albany on the last Wednesday in the present month. A very short time intervenes, which requires that promptness and activity should mark the steps of the different societies, who should all be represented. Towns and counties also where there are no organized societies should contrive to be represented.

☞ WANTED—two dollars a day and roast beef. Inquire at this office.

AMSDEN'S HYDROSTATIC PRINCIPLE

For ascertaining the lading of Canal Boats while lying in the water.

Among the inventions which deserve the special patronage of the public is Mr. Amsden's Hydrostatic Balance, for ascertaining the aggregate lading of canal boats. The apparatus consists of three parts—1st. A tube of copper, which is placed in the centre of the boat, and which communicates with the water in the canal by a perforation in the boat, and in which the water will rise in proportion as the boat is loaded. 2d. A buoy of a pyriform shape, made of thin sheet copper, perfectly closed or water tight, and which rests in and upon the water, in proportion to its weight, but always floats, rising and sinking as the boat is lightened or its weight increased by the addition of freight; to this is soldered, at its upper end, a flat strip of copper, sufficiently long to reach towards the upper end of the tube, where it may be inspected. 3d. Against the terminal end of this strip is a graduated silver scale, the spaces of which mark tons, half and quarter tons, down to one hundred pounds. This graduated scale is made by trial, and every boat requires the apparatus to be fitted to it. The mode of proceeding is sufficiently simple. It is first put in its place, as near the centre of the boat as can be, by measuring. The upper end of the long strip of copper attached to the buoy, stands against some portion of the narrow plate of silver intended for the scale; the point at which it stands when the boat is empty is marked, it is the zero of the scale; now, barrels loaded with iron or some heavy substance to the amount of 500 lbs. each, are placed upon the boat, which will cause the boat to sink and the water to rise in the tube, the points at which the strip of copper stands on the addition of every barrel is marked, four of which make a ton. In this way the boat is freighted and the scale formed, and which, being once prepared, is ready for use and will last during the life of the boat. From its simplicity it will be seen that the apparatus is not at all liable to be deranged, and it denotes accurately the lading of the boat, if the scale is correctly made. It could easily be made to indicate half hundreds, if necessary, but no notice is taken of weights less than 100 lbs. To place in a proper light the value of Mr. Amsden's invention, it is necessary to understand the disadvantages of the method pursued in obtaining the weight of freight upon the New York canals—1. The error in scale beams, which, however well made, and however accurate at first, become deranged and insensible to even larger weights, after use, and withal, liable to break. One instance of variation in a boat's load this last spring—on being weighed at Rochester, the amount of freight varied 3000 lbs. from that of its clearance at Buffalo; on being weighed again, at Syracuse, it varied 9000 lbs. from what it did at Rochester, making a variation of 12,000 lbs. from its clearance, and all this without any change in its lading. Now, it is very easy to understand the cause of variation in scale beams; the bearings must be comparatively soft, for, if made hard, they are liable to break, by the suspension of so much weight upon the bearings which must be of the shape somewhat of the edge of a knife; they become, therefore, blunted, which increases with use, and of course in time become comparatively insensible—so much for the scale beam. Now, what is the effect on the boat? and here I remark that it is impossible to adapt the cradle in the weigh lock to the size and shape of the boat, so as to support it equally, as in the water. Now, a boat when it is heavily laden, while resting upon the cradle during the time it is weighed is excessively strained in every part, and hence, after a little time, becomes leaky, the whole result of which is that in four or five years the boat becomes worthless, *and in a state ready to be condemned.* Now, the method of Mr. Amsden obviates all these difficulties, giving an accurate weight, and saving nearly one half the expense in boats; that is, a boat will last twice as long if not subjected to the unequal heavings of the cradle in the weigh lock; and, besides, save much time, and often great delays, by several boats arriving nearly at the same time at a weigh lock.

To judge of the rapidity with which boats with their lading can be weighed, on the hydraulic principle, I remark that it requires only that the weigh master should observe that the boat swings clear, that the buoy is free, and then to see what is indicated on the scale of the apparatus. In the disadvantages of the present method of weighing I have left

out of view the enormous expense of weigh locks. With these advantages, can any person expect that there will be delay in adopting the hydrostatic principle for weighing? a principle perfect in itself, and extremely simple in its application. None but rogues and lazy hands upon a boat desire the continuance of the old method. Why then is it not adopted? Let our canal commissioners answer—they are men of science, and ought to be ready to recommend those changes which will be beneficial to the state and community, and they might be proud of their labors if they should result in the saving of millions to the state, and those engaged in inland commerce. E.

SYNOPSIS OF NEWS, ETC.

The work of laying the rails on the Troy and Schenectady rail road will be commenced this week. The locomotives will be obtained from the manufactory of NORRIS & Co., Philadelphia, the most eminent manufacturers in the world. The passenger cars may now be seen partially completed at the coach factory of Messrs. Eaton & Gilbert in this city. They are inferior to none in the country, and superior to those on nine-tenths of the railroads in the United States.—*Troy Whig.*

The New York Sun states that upon its own knowledge five hundred laborers are wanted, and can have ready employment and good wages in one county in Connecticut, to assist in securing the farmers' crops.

Botanists record 56,000 species of various plants—38,000 are to be found in catalogues. Humboldt makes the species of insects 44,000, of fishes 2,500, of reptiles 700, of birds 4,000; and of mamiferious animals, 5,000.

The Albany and West Stockbridge railroad is nearly completed, and will probably be ready for use, the whole distance, early in September. An opening was made through the tunnel in Canaan, which is the last piece to be finished, on the 27th ult. so that persons passed through on foot. This tunnel will be 548 feet long and is cut through solid limestone rock, which forms its arched roof and sides. The tunneling was commenced only about 3 months since.—*Pough. Jour.*

The receipts of the Amer'n Board of Foreign Missions for the 11 months ending July 1st, were $300,000.

It is estimated that there are 80,000 Common Schools in the Union.

A Brussels paper says something extraordinary is at this moment passing in the sun; a sort of crater is perceived in it, which emits clouds of smoke, that spread over a portion of its surface like an enormous moveable spot.

A western paper gives an account of a horse and carriage having sunk suddenly in the bed of a river in the quick sands. Were there no *traces* left?

A laundry, or clothes washing establishment was lately destroyed by fire at Chelsea, Mass., including $5000 worth of clothing, sent to be washed.

A prisoner, while in the custody of a sheriff, in Virginia, and in irons, contrived to pick the sheriff's pockets of a considerable sum of money, while on his way to prison.

Take every opportunity of setting an ornamental shrub or tree round your house or door yard—if you have any taste you will never regret it.

The Picayune says, governor Dorr must be handed down to posterity as the gentleman who put his trust in *Providence* and failed.

A letter from the Rhone gives the following particulars of a whirlwind at Chauffailes and its neighborhood on the 24th ult. Thirty houses were actually carried away. Six persons of the same family were killed, others, were mutilated, children were smothered in their cradles, carriages were carried entire over the roofs of houses, plantations were torn up, and the largest trees were transported to an immense distance. A manufactory for spinning thread had just been constructed within a half a league of Chauffailes. All the mason work was finished, and the carpenters were putting on the roof. Not one stone of the building has been left on another; nor can it be discovered what his become of them. The roofs of houses were carried off to great heights and left on eminences. The church has been injured to the extent of 3,000f. The crops which were not taken off by the whirlwind, were cut to pieces by the hail, which was of extraordinary size, as large a hens' eggs in general, but at Chateauneuf of great bulk. The cure of that place took up one hailstone which was three inches across. Not less than twenty persons have been killed.

Harry Elliott the *cidevant* husband of Celeste, died in Baltimore last Thursday. He died worth $40,000, every cent of it earned by the dancing girl. Celeste ran off from him, when she left America, and has since married another.

We are informed by a passenger from Boston, that about an hour before the cars left, the steamboat Flushing, plying between Boston and Nahant, burst her boiler, killing and wounding a number of passengers. Twelve persons are said to have since died.

The Commercial Advertiser, by way of comment upon the enormous sum of money recently in the pockets of our fellow citizens, but now dangling from the extreme point of Fanny Elssler's foot raised to an altitude of 90 degrees above all decency, says:—"A virtuous woman, borne down with misfortune, weeping over her starving babes, would have appealed in vain to the same spectators, for as many cents as Elssler has received dollars for her indecencies." This is strong language, but we are not sure it is less true than strong.

New flour. The Troy Whig says four hundred bushels of new wheat, the growth of Watervliet, were ground on Saturday at the Port Schuyler mills, West Troy.

We cannot find, after diligent inquiry, any cause for altering our statements respecting the unequalled quantity and luxuriance of the crops, and the excellent manner in which, through the fineness of the weather, they have been secured thus far. Never before was there such an immense yield in the Genesee Valley.—*Rochester Post.*

In a late speech Sir Robert Peel said he was aware that a good many cotton mills had stopped work, yet it was true that capitalists were constantly investing money in new mills with improved machinery, and that the returns proved the actual consumption of cotton for the first six months of 1842 to be a good deal larger than for the same period of 1841.—*Jour. Com.*

Messrs. Grinnell, Minturn & Co. have, in these dull times, laid down the timbers of a ship of thirteen hundred and fifty tons, for their Liverpool line. This will be the largest of all the packet ships, and superior in all respects, so far as it is possible to do better than the best of what is past.—*Ib.*

The printing business in the United States is estimated to give employment to two hundred thousand persons and thirty millions of capital.

CIRCULAR.

To the Mechanics of the State of New-York:

The undersigned, "Executive Committee of the N. Y. State Association of Mechanics," address themselves at this time, for the purpose of calling attention to those interests believed to be connected with their callings as a body, such as is emphatically the *mechanics' interest.*

It will be remembered that nearly a year since the mechanics of this state met in convention at the Capitol, in Albany, for the purpose of discussing the effects of the state prison system of mechanical labor upon the interests of the mechanics generally, and the mode of obtaining relief. So respectable in numbers and talents was that convention, that it had a decided influence upon the management of that question before the public and before the legislature last winter, by eliciting a discussion of its merits before both, and the results are an acknowledgement of our claims, and in the law passed upon that subject, an approximation to relief was given. It was not considered by the mechanics to be such relief as should have been given to them, but as there was coupled with it a commission to examine another project for the employment of the convicts, it has been acquiesced in, although it was understood from the manner and nature of the appointment, that it was a mere pass-over to get rid of the subject, and that there was no intention of considering it seriously.

At the same convention above spoken of, the incipient steps were taken for forming a "State Association of Mechanics," which was consummated in October last, and a paper established under its control, devoted to the interests of the mechanics and manufacturers, which has now reached its 35th No. It is a conceded point that every class must take care of its own interests if it would have them subserved, and neither facts nor arguments are now required to prove that by associations come the most correct conclusions, and the most efficient action. Nor will it be denied that the mechanics, as a body, have interests deep and abiding to be taken care of. The questions now agitating the country from ends to centre is one of more vital interest to the mechanics than to any other portion of community, involving as it does the terms of their competition with the crushed, degraded, down trodden laborers of monarchial Europe, and with many trades it is the question of their existence in this country, and with all their comparative standing with the rest of community.

With such reasons therefore, and others obvious to every one, we appeal to the mechanics to carry out the organization started last year, by forming county associations, and appointing delegates to the state society, *meeting on the last Wednesday of August next.* Also to name members of the "general committee," equal in number to the members of assembly from each county. And where there may not be county associations, we would ask town or village societies of mechanics to select and send the names of active intelligent mechanics to compose such committee; the duties of which are, 'to be a channel of communication throughout the state'—*a general corresponding committee.* To complete so important an interest, the committee feel that they ought not and that they will not appeal in vain to their fellow mechanics.

And the question is also involved, whether the mechanics of the State of New York will sustain a paper devoted to their interests, or whether it shall be said that of *a hundred and seventy-five thousand mechanics* there is neither spirit nor enterprise enough to support a mechanics' paper. The one now established has a good beginning, which it has cost much time and labor to establish, and which, owing to the peculiar depression of the times and the impositions of agents, has not as yet paid its way. It was expected that mechanics would come forward voluntarily to its support, and advance the small amount of its subscription price; in which case efficient talent might be enlisted in its management. The committee wish to awaken the attention of prominent mechanics in each county to interest themselves in behalf of the paper, as an organ of the mechanic interest in the state. It may be done without trenching upon much of their time, and will amply remunerate all their exertions. It is particularly desired that mechanics should furnish to the paper information of general interest as well as that of particular trades. The committee earnestly ask your attention and immediate action upon the above.

WILLIAM H. PECK, Kings co.
EZRA S. HOWARD, Rensselaer co.
JAMES WALLACE, " "
JAMES HEGEMAN, " "
JOHN WAYDELL, New York city.
WARREN HECOX, Onondaga co.
O. G. STEELE, Erie co.
SAMUEL BAYLISS, Monroe co.
BENJ. C. TRUE, Albany co.
ANDREW JONES, " "
WILLIAM HAWE, " "
ABRAM KOONZ, " "
ALFRED PIERCE, " "
WM. WHITNEY, " "

RAYMOND'S IMPROVED FRACTURE APPARATUS, for the lower limbs, is an instrument combining all the advantages mentioned by W. Parker, M. D., of New York, while speaking of Dr. Bowen's Apparatus. Mr. R. dispensed with the crutch, (as the arm is not a fixed point from which to make extension,) and introduces the much more improved and mechanical way of making counter extension by the belt around the Pelvis. He has also a very simple additional method of his own in the management of the foot, and likewise a farther improvement in flexion of the limb, thereby rendering the instrument at once simple and easy to be adjusted. It may be used on a child 2 years of age, or for an adult person. We are satisfied that this instrument, in its present improved state, is the most perfect of any thing of the kind now in use in this country.

DAVID LARRABEE, M. D., of Paris, Oneida co.
J. T. TELLER, M. D., of New Hartford.
H. HURLBUT, Physician and Surgeon, Utica.
SIMON Z. HAVEN, } Physicians & Surgeons,
JOSIAH RATHBONE, } Utica.
THEODORE POMEROY, }

From the Boston Medical & Surgical Journal of March 30th, 1842

RAYMOND'S FRACTURE APPARATUS.—This instrument seems destined to win its way into general favor with surgeons as well as patients. If the naval surgeons would take out half a dozen in each ship, they would find them, we think, superior to any contrivance now extant for counter extension. Since receiving the opinion of a surgeon who has a fractured thigh under his care, secured by this excellent device, we feel authorised to speak of it more warmly than on any former occasion.

☞ All orders post paid, addressed to N. S. RAYMOND, No. 53 Columbia, corner of State street, Utica, will receive attention.

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N. B. An assortment kept on hand. 27.

MISCELLANY.

THE SOLDIER'S RULE.

I once had a neighbor who, though a clever man, came to me one hay day and said, 'Esquire White, I want you to come and get your geese away.' 'Why,' said I, 'what are my geese doing?' 'They pick my pigs' ears when they are eating, and drive them away, and I will not have it.' 'What can I do?' said I. 'You must yo.. them.' 'That I have not time to do now,' said I; 'I do not see but they must run.' 'If you do not take care of them I shall,' said the clever shoemaker in anger. 'What do you say, Esq. White?' 'I cannot take care of them now, but I will pay you for all damages.' 'Well,' said he, 'you will find that a hard thing, I guess.'

So off he went, and I heard a terrible squalling among the geese. The next news from the geese was, that three of them were missing. My children went and found them terribly mangled and thrown among the bushes.

'Now,' said I, 'all keep still, and let me punish him.' In a few days the shoemaker's hogs got into my corn. I saw them and let them remain a long time. At last I drove them all out and picked up the corn they had torn down and fed them with it in the road. By this time the shoemaker came in great haste after them.

'Have you seen anything of my hogs?' said he. Yes sir, you will find them yonder eating some corn which they tore down in my field.' 'In your field?' 'Yes, sir,' said I, 'hogs love corn, you know—they were made to eat.' 'How much mischief have they done?' 'O, not much,' said I.

Well, off he went to look, and estimated the damage to be equal to a bushel and a half of corn.

'Oh, no,' said I, 'it cant be.' 'Yes,' said the shoemaker, 'and I will pay you every cent of damage.' 'No,' I replied, 'you shall pay me nothing. My geese have been a great trouble to you.'

The shoemaker blushed and went home. The next winter when we came to settle, the shoemaker determined to pay me for my corn. 'No,' said I, 'I shall take nothing.'

After some talk we parted; but in a day or two I met him in the road, and fell into conversation in the most friendly manner. But when I started on he seemed loth to move, and I paused. For a moment both of us were silent. At last he said, 'I have something laboring on my mind.' 'Well what is it?' 'Those geese. I killed three of your geese, and shall never rest till you know how I feel. I am sorry.' And the tears came in his eyes. 'Oh. well,' said I, 'never mind, I suppose my geese were provoking.'

I never took any thing of him for it; but whenever my cattle broke into his field after this, he seemed glad—because he could show how patient he could be.

'Now,' said the old soldier, 'conquer yourself, and you can conquer with kindness, where you can conquer in no other way.

LEARNIG.

I am no enemy to learning—no enemy to colleges. On the contrary, I am the steadfast friend of both. But I am opposed to having them both over-rated as they are; and the advantages of both so abundantly exaggerated, by the great mass of our people—as if no other learning were valuable; no other knowledge worth having.

I would remind them of the basket-maker—the only man of a large crew, cast ashore among savages, who was able to turn his past acquisitions to account: while the remainder sat twirling their thumbs, liable every moment to be knocked in the head for their ignorance, the basket-maker was made a chief upon the spot, and almost worshipped for his ingenuity.

Or I might remind them of that other crew taken by a Barbary corsair. When they were carried before the Dey, he enquired their several occupations. The riggers, and blacksmiths, and carpenters were all sent off to the dock-yard. The sailors had a comfortable birth provided for them—and even the officers were turned to account, one way or another. At last his highness came to a literary man—a passenger and a poet—what to do with him, for a long while, his highness could not, for the life of him say—till at last, on learning that the prisoner was a man of sedentary occupations, and having the term explained by the interpreter, he ordered the poet a pair of feather breeches and sat him to hatching chickens.

And now which of these two was the educated man—the poet or the basket-maker.—*John Neal.*

A CAUSTIC HINT.

Piron, the French author, having been taken up by the watchman of the night in the streets of Paris, was carried, on the following morning, before a lieutenant of police who haughtily interrogated him concerning his business or profession.

"I am a poet, sir," said Piron.

"Oh! a poet, are you?" said the magistrate, "I have a brother who is a poet."

"Then we are even, said Piron, for I have a brother who is a fool."

A LEAF

From the Public Album kept at Niagara Falls. The falls are clear—quite so; but they do not hanser my hexpectations. 'I got thoroughly wetted by them, and lost my at. When the whether is 'ot, I prefer looking at a hengraving of them in the 'ouse.—S. L. ENGLAND.

IT IS VULGAR.

The following is extracted from Lockhart's Life of Sir Walter Scott.

"Lest I should forget to mention it, I put down here a rebuke which, later in life, Sir Walter gave in my hearing to his daughter Anne. She happened to say of something, I forget what, that she could not abide—It was *vulgar*. My love, said her father, you speak like a very young lady; do you know, after all, the meaning of this word *vulgar*? 'Tis only *common*; nothing that is common except wi.kedness, can deserve to be spoken of in a tone of contempt; and when you have lived to years, you will be disposed to agree with me in thanking God that nothing really worth having or caring about in this world, is *uncommon*."

SHOCKING.

"Jabe, what are you doing there on the floor?"

"Why, sir, I've had a shock."

"A shock?"

"Yes, sir."

"What kind of shock?"

"Why, sir, one of your subscribers came in during your sbsence, and offered to pay a year's subscription; which produced such an effect upon me that I have been perfectly helpless ever since."

"No wonder, Jabe; but cheer up; if you survive you are safe—as there is little prospects of such an other catastrophe in this office."

ANTIQUE.

A stone image has been found about thirteen miles from Tuscaloosa, Alabama. It is about ten inches long, and in due proportion, of a human being; the eyes, ears, nose, mouth, cheeks, forehead, and arms, are distinctly carved. The top of the head is flat, and has on one side four or five cuts or gashes. The image was first exposed to view by the tearing up of the earth, by a large blown down tree. Near the spot was found a complete set of elegant weights, of fine black polished stone, from a pound to an ounce, corresponding, very nearly, with the standard weights now in use. These evidences of traffic, says the Monitor, certainly denote a state of information and trade which the red men of our forest never enjoyed.

THE SCHOOLMASTER ABROAD.

The following is a copy of a sign in Richmond, Virginia. "New peez and nise purtaters by the qurt or two sens wuth for sail in this sullar—kum in."

Those who read or write much should be very attentive to their posture; they ought to sit and stand by turns, always keeping as nearly in an erect posture as possible. It has an excellent effect frequently to read or speak aloud. This not only exercises the lungs, but almost the whole body.

Six dandies fell into appoletic fits yesterday, in Royal street, on learning that their tailor had determined to do "cash business." This is sad news, and will raise the price of straps and whiskers.—*N. O. Cresent.*

Dean Swift proposed to tax female beauty, and to leave every lady to rate her own charms. He said the tax would be cheerfully paid, and very productive.

CANCER.

WE, the subscribers, do certify that doctor P. Davidson of Albany sued doctor Alden March, professor of surgery in Albany, for slander in the first degree for asserting that doctor P. Davidson had killed a woman; doctor March strove to prove, by a number of physicians, that what he had said was true—doctor Davidson produced a host of witnesses, and ourselves amongst the number, and satisfied the jury and the audience of the unbounded success of his practice in curing cancers. The result of the trial was, doctor Davidson got a judgment against doctor March, in the supreme court, first day of July, 1842. We give it as our candid and firm belief that doctor Davidson's manner of treating cancers is altogether superior to the practice of doctors in general. We were subpœnaed to the supreme court to testify to the cures he had performed on us and others, and we do advise all who are afflicted with cancers to call on doctor Davidson in time and get cured.

JARED HOLT, breast.
JOSEPH WHELAN.
DAVID ARMAN, nose.
MARGARET EASTERLY, breast.
MALANA AVERY ROSE, cancer in the mouth and covered the lower part of her face.
PETER VHROMAN, on the knee and leg, very bad, and helpless for three years; regular doctors attended me to no effect, and wished to take my limb off above the knee.

Doctor Davidson was authorised by the law of the state to practise in 1800—the act is on file in the secretary's office.
Residence 44 Ferry street.

PATENT AGENCY.

THE UNDERSIGNED, for the last three years Examiner in the Patent Office of the United States, has established an agency at Washington City, to accommodate persons desirous of obtaining patents for improvements in the useful arts.

As it is important to Patentees that their business should be attended to with promptness and fidelity—their interests frequently suffering from the delays growing out of the return of their papers for amendment, when drawn up by themselves or persons not acquainted with the business—it is evident that a great advantage will be derived from the employment of a proper person in the first instance.

An experience of three years in the Patent Office, during which period hundreds of inventions have been examined by the undersigned, has fully qualified him, he thinks, to serve as a Patent Agent, with the greatest possible advantage to those who may favor him with their patronage, as from his acquaintance with the forms of the office and inventions already patented, he will be enabled, in drawing up the papers of applicants, to avoid whatever might delay or prevent the issuing of a patent. His experience will enable him also to furnish information to persons respecting the novelty of their inventions, before they are submitted to the office, so that they may avoid the expense attending unfavorable applications for patents.

In every thing relating to his profession, embracing the application of chimistry to the arts, improvements in surgical instruments, &c., the undersigned will be able to render important assistance to inventors.

Having established agencies at London and Manchester, in England, he will be able to secure patents in that country, and prepare all the necessary papers with the greatest promptness and dispatch.

Inventors need in no case subject themselves to the expense of visiting Washington, as by forwarding to the Patent Office a model, where the invention is a machine—or a specimen, where it is a composition of matter—and sending a short description explanatory of its nature, &c. to the undersigned, all the necessary papers and drawings can be prepared and sent to the applicants for their signatures.

Models and papers can be forwarded to the Patent Office free of expense, by being delivered to the Collectors of the different ports. In the city of New York, the undersigned has an agent—M. Levy, 65 Maiden Lane—who will immediately forward by railroad all models and papers placed in his care for this purpose.

An Architect and Engineer, employed for the last four years as a Draftsman in the Patent Office, will attend to the execution of all the necessary drawings required by the undersigned in his business. Those who may perfer to draw up their own specifications, can have their drawings executed by him with the greatest accuracy and on the most reasonable terms.

Communications *postpaid*, addressed to the undersigned, will be immediately attended to In all cases where information is required, a fee of five dollars must be enclosed.

T. W. DONOVAN.

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